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09/612,633	07/07/2000	Tomio Mituhashi	1341.1008-D/JDH	8985

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EXAMINER	
LEUNG, CHRISTINA Y	
ART UNIT	**PAPER NUMBER**
2633	

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/612,633	MITUHASHI, TOMIO
	Examiner	Art Unit
	Christina Y. Leung	2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 26 August 2004 and 16 December 2004.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 11-14,16-18,20,21 and 23-25 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 11-14,16-18,20,21 and 23-25 is/are rejected.

7)☒ Claim(s) 16 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 12-9-04.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 16 is objected to because of the following informalities:

Claim 16 recites "a shielding section" in line 3 of the claim but a shielding section is already recited in claim 14. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Medved et al. (US 5,818,619 A) in view of Sandstedt (US 4,130,738 A) and Ota (US 5,959,752 A).

Regarding claim 11, Medved et al. disclose (Figures 1 and 4) a cable-side optical communication unit 56 connectable with an apparatus-side optical communication unit 54 provided in an apparatus (i.e., terminal 50) for executing communication with a communicating partner by using optical signals, the cable-side optical communication unit comprising:

a light emitting section (including airlink transmitter 26 shown in Figure 1) to transmit an optical signal to the apparatus;

a light receiving section (including airlink receiver 21) to receive an optical signal from the apparatus;

an optical module (the physical structure of unit 10) to house the light emitting section, the light receiving section and a buffer 25 to execute communications with the apparatus-side

optical communication unit, wherein the light emitting section is connected to one of a pair of optical fiber cables (fiber 18) to transmit the optical signal from the optical fiber cable to the apparatus, and the light receiving section is connected to the other pair of optical fiber cables (fiber 19) to transmit the optical signal from the apparatus to the optical fiber;

a first converging lens 27 attached to the optical module, to converge the optical signal transmitted by the light emitting section 26 and to transmit the converged optical signal to the apparatus (column 5, lines 44-45); and

a second converging lens 23 attached to the optical module, to converge the optical signal transmitted by the apparatus and to transmit the converged optical signal to the light receiving section 21 (column 5, lines 29-30).

Medved et al. disclose that the module houses buffer 25 (column 5, lines 40-45) but do not specifically disclose that the module houses an integrated circuit. However, it is well known in the art that a data buffer element such as the one already disclosed by Medved et al. may comprise an integrated circuit. Sandstedt in particular teach an optical communications system, related to the one disclosed by Medved et al., including a buffer 28 and a light emitting section 38 for transmitting data stored in the buffer (Figure 2B). Sandstedt further teach that this buffer may be an integrated circuit (column 10, lines 23-27). It would have been obvious to a person of ordinary skill in the art to specifically use an integrated circuit as taught by Sandstedt in the module disclosed by Medved et al. as an engineering design choice of a well known way to provide the buffer element already disclosed. One in the art would have been particularly motivated to use an integrated circuit such as taught by Sandstedt in order to more readily manufacture the module by using a widely available type of buffer element.

Medved et al. do not specifically disclose a shielding section to optically shield light between the first converging lens and the second converging lens or an optical filter provided on a contact surface with the apparatus-side communication unit to pass an infrared ray therethrough, although they already disclose simultaneous bi-directional optical communication (column 7, lines 20-25). However, it is well known in the art that it is generally undesirable for a light receiving section in a transceiver-type device to receive transmitted light from its own light emitting section, since it may interfere with the reception of the desired signals from its actual communication partner. Also, it is well understood in the art that light signals traveling on paths close to each other may interfere with each other even if they are of different wavelengths. Medved et al. already discloses lenses 23 and 27 for providing some direction/separation of the incoming and outgoing light.

Ota teaches an optical communication system related to the one disclosed by Medved et al., including a light emitting section 875 with an associated lens 877 and a light receiving section 876 with another associated lens (Figures 22A and 22B). Ota further teaches a shielding section (pipes 878) disposed to shield light between the emitting and receiving sections (column 16, lines 22-55).

It is also well known in the art that a filter may be used to block unwanted light from an optical receiver, and Ota further teaches a filter for this purpose (filters 15a and 15b in Figure 4A).

It would have been obvious to a person of ordinary skill in the art to including a shielding section and filter as taught by Ota in the system disclosed by Medved et al. in order to further

direct incoming and outgoing light and allow the light receiving section to receive desired communications without unwanted interference..

Regarding claim 12, Medved et al. further disclose a connecting section (connectors 16 and 17) with an optical cable unit (fibers 14 and 15), wherein the optical communication unit transmits and receives optical signals to and from the apparatus via the optical cable unit.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Medved et al. in view of Sandstedt and Ota as applied to claim 11 above, and further in view of Kobayashi (US 5,986,785 A).

Regarding claim 13, Medved et al. in view of Sandstedt and Ota describe a system as discussed above with regard to claim 11. They do not specifically suggest an optical filter to cut off light on a path of the signal from the apparatus to the light receiving section, and the optical signal from the light emitting section to the apparatus.

However, it is well known in the art that a filter may be used to block unwanted light from an optical receiver; in fact, Ota already teaches a filter for this purpose (filters 15a and 15b in Figure 4A). It is also well known in the art that a filter may be used to further ensure that light from an emitter is of a particular wavelength range. Kobayashi in particular teach an optical communications system and further teach that a single optical filter 63 may also be placed in front of a light emitting section and a light receiving section arranged next to each other (Figure 1B; column 2, lines 58-67; column 3, lines 1-8). It would have been obvious to a person of ordinary skill in the art to use a filter as taught by Kobayashi in front of the emitting and receiving sections in the system described by Medved et al. in view of Sandstedt and Ota in order to block out unwanted light to and from the apparatus. One in the art would have been

particularly motivated in include such a filter in order to ensure that communications are properly received without noise.

5. Claims 14, 16, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Medved et al. in view of Kobayashi and Ota.

Regarding claim 14, Medved et al. disclose (Figures 1 and 4) an optical communication unit (such as unit 54) provided between two apparatuses (such as terminal 50 shown in Figure 4, or even interface units 52 and 58) that perform optical communication with each other, the optical communication unit transmitting and receiving optical signal to and from the apparatuses, the optical communication unit comprising:

a connector (connectors 16 and 17) being connectable to any one of the apparatuses (unit 54 is connected to interface unit 52 in Figure 4);

a signal transmitting/receiving section including a light receiving section (including airlink receiver 21) to transmit an optical signal received from one of the apparatuses (interface unit 58), and a light emitting section (including airlink transmitter 26) to transmit an optical signal transmitted from the other of the apparatuses (interface unit 52) to the one of the apparatuses 58; and

an optical module (the physical structure of unit 10) to house the signal transmitting/receiving section such that the light emitting section is connected to one of a pair optical fiber cables 18 to receive the optical signal from the other of the apparatuses 52, and that the light receiving section is connected to the other of a pair of optical fiber cables 19 to transmit the optical signal from the one of the apparatuses 58 to optical fiber.

For clarification, Examiner again notes that in Figure 4, if the optical communication unit is unit 54, the "other of the apparatuses" as discussed above would be interface unit 52 and the "one of the apparatuses" would be interface unit 58.

Further regarding claim 14, Medved et al. also disclose that the optical module 10 includes a first converging lens 27 attached thereto to converge the optical signal transmitted by the light emitting section 26, a second converging lens 23 attached thereto to converge the optical signal received at the light receiving section 21.

Medved et al. do not specifically disclose at least one window between the one of the apparatuses and the light receiving/emitting sections. However, as similarly discussed above with regard to claim 13, it is well known in the art that a filter may be used to block unwanted light from an optical receiver and that a filter may be used to further ensure that light from an emitter is of a particular wavelength range. Kobayashi in particular teach an optical communications system and further teach that a window 61a comprising a single optical filter 63 may also be placed in front of a light emitting section and a light receiving section arranged next to each other (Figure 1B; column 2, lines 58-67; column 3, lines 1-8). It would have been obvious to a person of ordinary skill in the art to use a filtering window as taught by Kobayashi in front of the emitting and receiving sections in the system disclosed by Medved et al. in order to block out unwanted light to and from the apparatus. One in the art would have been particularly motivated in include such a filtering window in order to ensure that communications are properly received without noise.

Further regarding claim 14 and also claim 16, as well as the claim may be understood with respect to the claim objection discussed above, Medved et al. do not specifically disclose a

shielding section to optically shield light between the first converging lens and the second converging lens, although they already disclose full duplex optical communication (column 7, lines 20-25). However, it is well known in the art that it is generally undesirable for a light receiving section in a transceiver-type device to receive transmitted light from its own light emitting section, since it may interfere with the reception of the desired signals from its actual communication partner. Also, it is well understood in the art that light signals traveling on paths close to each other may interfere with each other even if they are of different wavelengths. Medved et al. already discloses lenses 23 and 27 for providing some direction/separation of the incoming and outgoing light.

Ota teaches an optical communication system related to the one disclosed by Medved et al., including a light emitting section 875 with an associated lens 877 and a light receiving section 876 with another associated lens (Figures 22A and 22B). Ota further teaches a shielding section (pipes 878) disposed to shield light between the emitting and receiving sections (column 16, lines 22-55).

It is also well known in the art that a filter may be used to block unwanted light from an optical receiver, and Ota further teaches a filter for this purpose (filters 15a and 15b in Figure 4A).

It would have been obvious to a person of ordinary skill in the art to including a shielding section and filter as taught by Ota in the system disclosed by Medved et al. in order to further direct incoming and outgoing light and allow the light receiving section to receive desired communications without unwanted interference.

Regarding claim 17, Medved et al. disclose that converging lens 23 converges an optical signal from the one of the apparatuses and transmits the optical signal to at least one of the pair of optical cables (i.e., cable 19); and

the converging lens 27 converges an optical signal transmitted through at least one of the pair of optical cables (i.e., cable 18) and transmits the optical signal to the one of the apparatuses.

Regarding claim 18, Medved et al. disclose that the light receiving section has a first modulating/demodulating section to receive an optical signal transmitted from the one of the apparatuses and convert the optical signal to an electric signal (Figure 1 shows how the optical signal received by airlink receiver 21 is converted into an electric signal), and also to demodulate the electric signal to an optical signal and transmit the optical signal to at least one of the pair of optical cables (using transmitter TXU 20, which converts the electric signal back into an optical one for the fiber); and

the light emitting section has a second modulating/demodulating section to receive the optical signal transferred through at least one of the pair of optical cables and to convert the optical signal to an electric signal (using receiver RXU 24, which converts the optical signal from the fiber into an electric one), and also to demodulate the electric signal to an optical signal and transmit the optical signal to the one of the apparatuses (the electrical signal received by airlink transmitter 26 is converted into an optical signal; see column 5, lines 14-46).

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Medved et al. in view of Kobayashi and Ota as applied to claim 14 above, and further in view of Helot et al. (US 5,781,177 A).

Regarding claim 20, Medved et al. in view of Kobayashi and Ota describe a system as discussed above with regard to claim 14. They do not specifically suggest that the light receiving section may be changed according to a speed of an optical signal. However, it is well known in the art that optical signals transmitted at different speeds may have different characteristics at the receiver, such as different amounts of signal losses or errors. Helot et al. (Figures 1 and 4) teach that a light receiving section may switch between two different areas depending on characteristics of the incoming signal. In particular, they teach a receiver 40 for high-speed communications and a receiver 42 for low-speed communications. It would have been obvious to a person of ordinary skill in the art to include different receiving devices suited for different communication speeds as taught by Helot et al. in the system described by Medved et al. in view of Koabayashi and Ota in order to optimize reception of signals with different characteristics and increase the flexibility of the communications unit. One in the art would have been particularly motivated to include the different receiving devices taught by Helot et al. because the unit disclosed by Medved et al. is specifically concerned with providing an interface between different types of communicating elements.

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Medved et al. in view of Kobayashi and Ota as applied to claim 14 above, and further in view of Nguyen (US 5,940,209 A).

Regarding claim 21, Medved et al. in view of Kobayashi and Ota describe a system as discussed above with regard to claim 14. They do not specifically suggest that the light receiving section may be changed according a transmission distance of an optical signal. However, it is well known in the art that optical signals transmitted across different distances may have

different characteristics at the receiver, such as different amounts of signal loss. Nguyen teaches that a light receiving section may change according to a transmission distance of an optical signal; in particular, Nguyen teaches changing an amplification of an optical signal according to a transmission distance of the signal (column 3, lines 4-14). It would have been obvious to a person of ordinary skill in the art to include a circuit which adjusts according to a transmission distance of the signal such as taught by Nguyen in the systems described by Medved et al. in view of Kobayashi and Ota in order to optimize reception of signals with different characteristics and increase the flexibility of the communications unit. Again, one in the art would have been particularly motivated to include the circuit taught by Nguyen because the unit disclosed by Medved et al. is specifically concerned with providing an interface between different types of communicating elements.

8. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Medved et al. in view of Kobayashi and Ota as applied to claim 14 above, and further in view of Tsuji et al. (US 5,664,035 A).

Regarding claim 23, Medved et al. in view of Kobayashi and Ota describe a system as discussed above with regard to claim 14 above.

Medved et al. disclose converging lenses 23 and 27 arranged in paths of the optical signal. Medved et al. do not specifically disclose that the light receiving section and the light emitting section are realized with one lens.

However, Tsuji et al. teach an optical communication system related to the one described by Medved et al. in view of Kobayashi and Ota and further teach a light emitting section 222 and a light receiving section 221 integrated to each other and covered with one lens, converging lens

231 (Figures 2a-b). They also teach that the converging lens 231 converges a signal from the apparatus to the cable 41 as well as from the cable to the apparatus (Figure 2a).

Regarding claim 23, it would have been obvious to a person of ordinary skill in the art to use a converging lens as taught by Tsuji et al. instead of the two lenses in the system described by Medved et al. in view of Kobayashi and Ota as an engineering design choice of an alternative way to focus and guide the incoming and outgoing signals between the optical fiber and the optical components. The claimed differences exist not as a result of an attempt by Applicants to solve an unknown problem but merely amount to the selection of expedients known as design choices to one of ordinary skill in the art. One in the art may be particularly motivated to provide one converging lens as taught by Tsuji et al. instead of two simply for economic reasons depending on the availability/cost of a single lens arrangement over a two lens arrangement.

9. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Medved et al. in view of Tsuji et al. and Ota.

Regarding claim 24, Medved et al. disclose (Figures 1 and 4) a cable-side optical communication unit 56 connectable with an apparatus-side optical communication unit 54 provided in an apparatus (i.e., terminal 50) and having a light transceiver section (including airlink receiver 21 and airlink transmitter 26 shown in Figure 1) to transmit/receive an optical signal to and from the apparatus for executing communication with a communication device, the cable-side optical communication unit comprising:

an optical module (the physical structure of unit 10) to house the light transceiver section and a buffer 25 to execute communications with the apparatus-side optical communication unit, wherein the light transceiver section is connected to one of a pair of optical fiber cables (fiber

18) to transmit the optical signal form the optical fiber cable to the apparatus, and the light transceiver section is connected to the other pair of optical fiber cables (fiber 19) to transmit the optical signal from the apparatus to the optical fiber;

a first converging lens 27 attached to the optical module, to converge the optical signal transmitted by the light transceiver section (specifically by transmitter 26) and to transmit the converged optical signal to the apparatus;

a second converging lens 23 attached to the optical module, to converge the optical signal transmitted by the apparatus and to transmit the converged optical signal to the light transceiver section (specifically to receiver 21).

Medved et al. disclose that the module houses buffer 25 (column 5, lines 40-45) but do not specifically disclose that the module houses an integrated circuit, wherein the integrated circuit executes bi-directional communications with the apparatus-side optical communication unit and the other cable-side optical communication unit..

However, control circuits are well known in the art, and Tsuji et al. teach an optical communication system (Figure 1) that is related to the one described by Medved et al., and further teach control circuits 11 and 21 for executing bi-directional communications. Although Tsuji et al. do not explicitly teach that the control circuits 11 and 21 are integrated circuits, integrated circuits are well known in the art, and it is well known in the art that a control circuit such as taught by Tsuji et al. may be implemented as a widely-available integrated microprocessor circuit.

It would have been obvious to a person of ordinary skill in the art to include a circuit for executing bi-directional communications as taught by Tsuji et al. in the system disclosed by Medved et al. in order to provide a way to control the transceiver elements to perform as desired.

Medved et al. do not specifically disclose a shielding section to optically shield light between the first converging lens and the second converging lens or an optical filter provided on a contact surface with the apparatus-side communication unit to pass an infrared ray therethrough, although they already disclose simultaneous bi-directional optical communication (column 7, lines 20-25). However, it is well known in the art that it is generally undesirable for a light receiving section in a transceiver-type device to receive transmitted light from its own light emitting section, since it may interfere with the reception of the desired signals from its actual communication partner. Also, it is well understood in the art that light signals traveling on paths close to each other may interfere with each other even if they are of different wavelengths. Medved et al. already discloses lenses 23 and 27 for providing some direction/separation of the incoming and outgoing light.

Ota teaches an optical communication system related to the one disclosed by Medved et al., including a light emitting section 875 with an associated lens 877 and a light receiving section 876 with another associated lens (Figures 22A and 22B). Ota further teaches a shielding section (pipes 878) disposed to shield light between the emitting and receiving sections (column 16, lines 22-55).

It is also well known in the art that a filter may be used to block unwanted light from an optical receiver, and Ota further teaches a filter for this purpose (filters 15a and 15b in Figure 4A).

It would have been obvious to a person of ordinary skill in the art to including a shielding section and filter as taught by Ota in the system disclosed by Medved et al. in order to further direct incoming and outgoing light and allow the light receiving section to receive desired communications without unwanted interference..

10. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Medved et al. in view of Tsuji et al.

Regarding claim 25, Medved et al. disclose (Figures 1 and 4) an optical communication unit (such as unit 54) provided between two apparatuses (such as terminal 50 shown in Figure 4, or even interface units 52 and 58) that perform optical communication with each other, the optical communication unit transmitting and receiving optical signals to and from the apparatus, the optical communication unit comprising:

a signal transmitting/receiving section including a light receiving section (including airlink receiver 21) to transmit an optical signal received from one of the apparatuses (interface unit 58), and a light emitting section (including airlink transmitter 26) to transmit an optical signal transmitted from the other of the apparatuses (interface unit 52) to the one of the apparatuses 58.

For clarification, Examiner again notes that in Figure 4, if the optical communication unit is unit 54, the "other of the apparatuses" as discussed above would be interface unit 52 and the "one of the apparatuses" would be interface unit 58.

Medved et al. disclose converging lenses 23 and 27 arranged in paths of the optical signal. However, they do not specifically disclose that the unit further comprises a (single) converging lens arranged in light paths of the optical signal from the one of the apparatuses to

the light receiving section and the optical signal from the light emitting section to the one of the apparatuses.

However, Tsuji et al. teach an optical communication system related to the one disclosed by Medved et al. and further teach a light emitting section 222 and a light receiving section 221 integrated with each other and covered with one lens, converging lens 231 (Figures 2a-b). They also teach that the converging lens 231 converges a signal from the apparatus to the cable 41 as well as from the cable to the apparatus (Figure 2a).

It would have been obvious to a person of ordinary skill in the art to use a converging lens as taught by Tsuji et al. instead of the two lenses in the system disclosed by Medved et al. as an engineering design choice of an alternative way to focus and guide the incoming and outgoing signals between the optical fiber and the optical components. The claimed differences exist not as a result of an attempt by Applicants to solve an unknown problem but merely amount to the selection of expedients known as design choices to one of ordinary skill in the art. One in the art may be particularly motivated to provide one converging lens as taught by Tsuji et al. instead of two simply for economic reasons depending on the availability/cost of a single lens arrangement over a two lens arrangement.

Further regarding claim 25, Medved et al. do not specifically disclose that the light receiving section and the light emitting section are integrated with each other. However, Tsuji et al. teach that a light emitting section 222 and a light receiving section 221 may be integrated with each other (column 5, lines 66-67; column 6, lines 1-2). It would have been obvious to a person of ordinary skill in the art to integrate the light receiving section and the light emitting section in

the system disclosed by Medved et al. in order to arrange and manufacture the elements more efficiently.

Response to Arguments

11. Applicant's arguments with respect to claims 11-14, 16-18, and 20-25 are have been considered but are moot in view of the new ground(s) of rejection.

12. Applicant's arguments filed with regard to Medved et al. (US 5,818,519 A) have been also fully considered but they are not persuasive.

Examiner respectfully disagrees with Applicant's assertions on page 8 of the response that "Medved…fails to teach a communication using an optical fiber" and that "Medved cannot realize spatial communication." Examiner notes that Medved et al. disclose that "airlink transmitter 26" and "airlink receiver 21" communicate through free-space with an apparatus (not explicitly shown in Figure 1, but it would be understood that it is located to the right side of Figure 1). However, Medved et al. further disclose fibers 18 and 19.

Examiner acknowledges that the system shown in Figure 1 of Medved et al. does not use the transmitter 26 and receiver 21 to communicate through a fiber to the opposite "apparatus." However, Examiner respectfully notes that Applicant's invention is also *not* directed to communicating via fiber to the apparatus.

Examiner particularly notes that the arrangement of fibers and transceiver disclosed by Medved et al. is similar to the arrangement in Applicant's invention. For example, Applicant's Figure 2, described on pages 15-17 of Applicant's specification, shows that the transmitter 124 and receiver 126 of the cable-side communication unit 12 communicates to the apparatus (i.e.,

personal computer 2) through space, while being connected to fibers 11A and 11B on the other side *away* from the apparatus 2.

Medved et al. likewise disclose that the transmitter 26 and receiver 21 are connected to fibers 18 and 19 (on the side of the transmitter and receiver that is away from the apparatus). In general terms, transmitter 26 disclosed by Medved et al. takes signals from fiber 18 and transmits them to the apparatus, and receiver 21 receives signals from the apparatus and sends them to fiber 19. Therefore, Examiner respectfully maintains that Medved et al. anticipates many features of the recited claims as discussed in the rejections above.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 571-272-3023. The examiner can normally be reached on Monday to Friday, 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. R. Sedighian

M. R. SEDIGHIAN
PRIMARY EXAMINER